

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-10. (Cancelled).

11. (Currently Amended) A method for making polymer-coated single-wall carbon nanotubes comprising dispersing single-wall carbon nanotubes and a polymer in a solvent by a method selected from the group consisting of mixing, sonication, heating and combinations thereof, wherein the solvent comprises water and wherein the polymer is water-soluble.

12. (Previously Presented) A method in accordance with claim 11, wherein the single-wall carbon nanotubes are substantially free of amorphous carbon.

13. (Previously Presented) A method in accordance with claim 11, wherein the single-wall carbon nanotubes are coated with at least two polymers.

14. (Currently Amended) A method in accordance with claim 11, wherein the polymer and the plurality of individual single wall carbon nanotubes are added to the solvent sequentially.

15. (Previously Presented) A method in accordance with claim 11, wherein the polymer and the plurality of individual single-wall carbon nanotubes are added to the solvent simultaneously.

16. (Cancelled)

17. (Previously Presented) A method in accordance with claim 11, wherein the solvent further comprises a surfactant.

18. (Previously Presented) A method in accordance with claim 11, wherein the concentration of single-wall carbon nanotubes in the solvent is between about 0.1 grams/liter and about 5 grams/liter.

19. (Previously Presented) A method in accordance with claim 11, wherein the concentration of polymer in the solvent is between about 1.0 percent and about 5.0 percent by weight.

20. (Currently Amended) A method ~~in accordance with claim 11~~ for making polymer-coated single-wall carbon nanotubes comprising dispersing single-wall carbon nanotubes and a polymer in a solvent by a method selected from the group consisting of mixing, sonication, heating and combinations thereof, wherein the solvent is heated to a temperature at least about 40 °C.

21. (Currently Amended) A method in accordance with claim ~~11~~ 20, wherein the solvent is heated to a temperature of between about 50 °C and about 60 °C.

22. (Currently Amended) A method ~~in accordance with claim 11~~ for making polymer-coated single-wall carbon nanotubes comprising dispersing single-wall carbon nanotubes and a polymer in a solvent by a method selected from the group consisting of mixing, sonication, heating and combinations thereof, wherein the solvent is heated between about 0.1 hours and about 100 hours.

23. (Currently Amended) A method in accordance with claim ~~11~~ 22, wherein the solvent is heated between about 1 hour and about 50 hours.

24. (Previously Presented) A method in accordance with claim 11, further comprising the step of extruding the polymer-wrapped nanotubes with a second polymer to form an encapsulated nanotube-polymer composite.

25. (Currently Amended) A method ~~in accordance with claim 11, further comprising the step of comprising:~~

(a) dispersing single-wall carbon nanotubes and a polymer in a first solvent by a method selected from the group consisting of mixing, sonication, heating and combinations thereof to make polymer-coated single-wall carbon nanotubes; and

(b) removing the polymer coat from the nanotubes by contacting the coated nanotubes with a second solvent having a low surface tension.

26. (Currently Amended) A method in accordance with claim 25, wherein the second solvent comprises a chlorinated hydrocarbon.

27. (Previously Presented) A method in accordance with claim 11, further comprising the step of aligning the nanotubes by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

28-46. (Cancelled)

47. (New) A method in accordance with claim 11, wherein the polymer is selected from the group consisting of polyvinyl pyrrolidone (PVP), polystyrene sulfonate (PSS), poly(1-vinyl pyrrolidone-co-vinyl acetate) (PVP/VA), poly(1-vinyl pyrrolidone-co-acrylic acid), poly(1-vinyl pyrrolidone-co-dimethylaminoethyl methacrylate), polyvinyl sulfate, poly(sodium styrene sulfonic acid-co-maleic acid), dextran, dextran sulfate, bovine serum albumin (BSA), poly(methyl methacrylate-co-ethyl acrylate), polyvinyl alcohol, polyethylene glycol, and polyallyl amine.

48. (New) The method in accordance with claim 11, wherein the single-wall carbon nanotubes are dispersed with at least two different polymers.

49. (New) A method in accordance with claim 11, wherein the solvent is heated to a temperature at least about 40 °C.

50. (New) A method in accordance with claim 49, wherein the solvent is heated between about 0.1 hours and about 100 hours.

51. (New) A method in accordance with claim 11, wherein the solvent is heated to a temperature of between about 50 °C and about 60 °C.

52. (New) A method in accordance with claim 51, wherein the solvent is heated between about 1 hour and about 50 hours.

53. (New) A method in accordance with claim 11, wherein the solvent is heated between about 0.1 hours and about 100 hours.

54. (New) A method in accordance with claim 11, wherein the solvent is heated between about 1 hour and about 50 hours.

55. (New) The method in accordance with claim 17, wherein the surfactant is sodium dodecyl sulfate (SDS).

56. (New) A method in accordance with claim 20, wherein the single-wall carbon nanotubes are coated with at least two polymers.

57. (New) The method in accordance with claim 20, wherein the single-wall carbon nanotubes are dispersed with at least two different polymers.

58. (New) A method in accordance with claim 20, wherein the solvent further comprises a surfactant.

59. (New) The method in accordance with claim 58, wherein the surfactant is sodium dodecyl sulfate (SDS).

60. (New) A method in accordance with claim 20, wherein the concentration of single-wall carbon nanotubes in the solvent is between about 0.1 grams/liter and about 5 grams/liter.

61. (New) A method in accordance with claim 20, wherein the concentration of polymer in the solvent is between about 1.0 percent and about 5.0 percent by weight.

62. (New) A method in accordance with claim 20, wherein the solvent is heated between about 0.1 hours and about 100 hours.

63. (New) A method in accordance with claim 20, wherein the solvent is heated between about 1 hour and about 50 hours.

64. (New) A method in accordance with claim 20, further comprising the step of extruding the polymer-wrapped nanotubes with a second polymer to form an encapsulated nanotube-polymer composite.

65. (New) A method in accordance with claim 20, further comprising the step of aligning the nanotubes by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

66. (New) A method in accordance with claim 20, wherein the polymer is selected from the group consisting of polyvinyl pyrrolidone (PVP), polystyrene sulfonate (PSS), poly(1-vinyl pyrrolidone-co-vinyl acetate) (PVP/VA), poly(1-vinyl pyrrolidone-co-acrylic acid), poly(1-vinyl pyrrolidone-co-dimethylaminoethyl methacrylate), polyvinyl sulfate, poly(sodium styrene sulfonic acid-co-maleic acid), dextran, dextran sulfate, bovine serum albumin (BSA), poly(methyl methacrylate-co-ethyl acrylate), polyvinyl alcohol, polyethylene glycol, and polyallyl amine.

67. (New) A method in accordance with claim 22, wherein the single-wall carbon nanotubes are coated with at least two polymers.

68. (New) The method in accordance with claim 22, wherein the single-wall carbon nanotubes are dispersed with at least two different polymers.

69. (New) A method in accordance with claim 22, wherein the solvent further comprises a surfactant.

70. (New) The method in accordance with claim 69, wherein the surfactant is sodium dodecyl sulfate (SDS).

71. (New) A method in accordance with claim 22, wherein the concentration of single-wall carbon nanotubes in the solvent is between about 0.1 grams/liter and about 5 grams/liter.

72. (New) A method in accordance with claim 22, wherein the concentration of polymer in the solvent is between about 1.0 percent and about 5.0 percent by weight.

73. (New) A method in accordance with claim 22, further comprising the step of extruding the polymer-wrapped nanotubes with a second polymer to form an encapsulated nanotube-polymer composite.

74. (New) A method in accordance with claim 22, further comprising the step of aligning the nanotubes by application of an external field selected from the group consisting of an electrical field, a magnetic field and a shear flow field.

75. (New) A method in accordance with claim 22, wherein the polymer is selected from the group consisting of polyvinyl pyrrolidone (PVP), polystyrene sulfonate (PSS), poly(1-vinyl pyrrolidone-co-vinyl acetate) (PVP/VA), poly(1-vinyl pyrrolidone-co-acrylic acid), poly(1-vinyl pyrrolidone-co-dimethylaminoethyl methacrylate), polyvinyl sulfate, poly(sodium styrene sulfonic acid-co-maleic acid), dextran, dextran sulfate, bovine serum albumin (BSA), poly(methyl methacrylate-co-ethyl acrylate), polyvinyl alcohol, polyethylene glycol, and polyallyl amine.

76. (New) A method in accordance with claim 25, wherein the second solvent comprises tetrahydrofuran.

Respectfully submitted,

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